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# THE SCHOOL REVIEW

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## THE ADMINISTRATION OF QUANTITATIVE AND QUALITATIVE CREDIT FOR HIGH-SCHOOL WORK

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The bulletin of the Kansas City, Kansas, High School for the year 1915-16 contained the following announcement relative to quantitative and qualitative credit:

Beginning this year, grades of I, II, and III will count toward graduation as follows:

A grade of I will count as 1.2 units

A grade of II will count as 1.1 units

A grade of III will count as 1.0 unit

This differentiation in credit values is made for the reason that pupils who are able, under the same class conditions and in the same length of time, to acquire either a more thorough command over a definite amount of subject-matter, or over more subject-matter than their classmates, should be encouraged to do so and credited accordingly. By this system of credit a pupil who takes 5 subjects per year for three years and makes grades of I in all subjects can complete the 18 units of credit required for graduation from high school in the three years and devote the fourth year to junior college work.

This weighted credit was determined on the following basis: Eighteen units of credit are required for graduation. At least 12 of the units must be earned in academic subject-matter. As many as 6 units may be taken in non-academic subject-matter.

Each pupil doing normal work takes five subjects, four academic and one non-academic. All the subjects are equal in credit value. A pupil who, under this system of weighted credit, makes five grades of I, gets 6 units of credit. At this level he can secure the 18 units of credit necessary for graduation in three years. On this basis a grade of I was assigned a value of 1.2 units of credit; the next highest grade, a II, was given 1.1 units of credit; and the lowest passing mark, a III, was given 1.0 unit of credit.

At our first few faculty meetings of the year this system was discussed. All teachers agreed that it called for a more careful plan of grading than the old system; that, since it was the purpose of this system to encourage pupils to put forth their best efforts in the interests of higher scholarship, they should be made conscious of the way in which teachers differentiate between high and low scholarship; that one of the methods of making a grading system objective is to let pupils know in advance what work will be expected of them for the various grade levels.

It is a custom in this school to issue report cards for pupils every six weeks. At the end of the first five weeks of school I suggested to the members of the faculty that they write down the essential elements which they were going to consider in estimating their marks for the first six weeks' work and hand them to me at the beginning of the seventh week. There were reports from ten teachers of English, eight teachers of mathematics, seven teachers of foreign languages, five teachers of history, three teachers of commercial work, six teachers of the manual-constructive work, four teachers of art, and two teachers of physical-training work. I shall have time to call attention to only a few of the outstanding facts.

*The most striking single fact was that teachers teaching within the same department were putting emphases upon different things as bases for awarding grades.*

Some science teachers insisted that the "power of observation" must be shown by a pupil before he could get *any* credit. Others never mentioned it. Some insisted that a pupil must recite so many times each six weeks to get a certain grade. Others did not even mention this point. All agreed that all laboratory work must

be completed before any credit would be given, and that frequent short tests were necessary as a basic part of their grading system.

The Latin reports showed practically no uniformity on the basic elements of grading. One teacher considered oral work, written work, and tests of equal importance in determining any grade regardless of what each one tests or how each is measured. She said nothing about the quantity of work a pupil should do for a given grade. Another teacher made quantity a definite part of his grading for the advanced work in Latin, and suggested that it should be taken into account in grading beginning Latin. Another teacher mentioned the following system of assigning credit: over 90 per cent equal to I; 80-90 per cent equal to II; 60-80 per cent equal to III; below 60 per cent equal to IV (failure).

One teacher of history made his main distinction in grades on "extra essays and oral reports." Another teacher, grading pupils in the same subject-matter, determined the standing of his pupils by judging them on attention, leading to interest; adaptability to the situation; degrees of initiative; habits of study, and various written exercises. Another teacher determined the difference in grades on the basis of the ability of the pupil to read and to tell in good English what he had read. No other elements were mentioned. Still another teacher took an entirely different basis for estimating grades; he made both the quantity and the quality of the work essentials in determining all his marks. He noted the attitudes of his pupils and tested them for memory, originality, and ability to study and grasp new facts. A study of this report showed that the methods of this teacher were totally different from the methods of the teacher previously mentioned, yet the two were teaching identical subject-matter.

The reports of four teachers of English showed interesting comparisons on salient points in marking English. The first, third, and fourth teachers said absolutely nothing about requiring more work from a pupil who makes the highest grade. The difference in marks was based wholly on quality. The second teacher thought the stronger pupils should do more work with a higher quality. Teachers Nos. 1 and 3 spoke of grading pupils high who do "these things" in "as good a manner" as, or "better than," a high-school

pupil is expected to do them. Teacher No. 1 said that the grade of II is the grade "a normal pupil receives when he does good, consistent work which shows gradual improvement." Teachers Nos. 1 and 4 thought a "keen appreciation of literature" was necessary for a high grade. The other two did not mention this point. Teacher No. 2 thought that composition, both oral and written, which showed that pupils had habits of correct use of English should be graded high. Also pupils who have read literature until "phrases and extracts from reading appear in written and oral work" should get high grades. All of the teachers mentioned neatness, accuracy, attendance, and promptness in doing assigned work as essentials for different grades.

*Another striking fact was that teachers of non-academic subjects were grading on some of the same essential elements as were teachers of academic subjects.*

Throughout these reports teachers were found insisting on "neatness," "accuracy," "observation and originality," "quantity of work"; "I study my pupil hard and give the grades as an incentive and not as a penalty"; "work must be in on time"; "quality is permanent, quantity is cheap in the mechanical world"; "strict attention to class work"; "must show an interest in work"; "application"; "speed"; "good grades on examinations."

Enough of these reports have been mentioned to show (1) that the teachers had but vague notions of the elements which they took into consideration in determining grades; (2) that they had made no clear line of demarcation between the pupil just passing and the pupil doing the most excellent work; (3) that certain salient points are considered in grading all kinds of subject-matter; (4) the need of the co-operation of the faculty in determining in as precise and objective a manner as possible what are the distinguishing differences between work that should be given a high mark and work that should be given a low mark.

In an attempt to meet the needs just pointed out, I used the following plan. I selected from the fifty-one reports which the faculty turned over to me what I thought were the main elements mentioned by teachers of academic and non-academic subjects and had the list mimeographed. I gave each member of the faculty

a copy, and asked him to study these elements carefully and to mark opposite each element the ranking he would give it in making up a grade, i.e., mark whether it should be required of a pupil making a grade of I, II, III, or IV. In some cases an element might be required of pupils of more than one rank; for instance, the point "neatness" might be required of all pupils getting a passing mark. From these rankings we obtained the following essential elements for grades of I, II, and III:

#### THE ESSENTIAL ELEMENTS FOR GRADE III

##### I.0 UNIT OF CREDIT FOR GRADE III

1. *All the work asked of all the class*, such as laboratory notebooks, themes, oral and written, tests, exercises, map-books, book reviews, notebooks, translations, etc., must be handed to the instructor before any credit will be given.

2. This work must be reasonably neat and accurate. *Poorly spelled and illegible work* cannot be accepted for credit.

3. *Good attention and steady employment* during the class hours are required of all pupils who are given credit for a course.

*The quality of the work for this grade should be 75 per cent perfect.*

#### THE ESSENTIAL ELEMENTS FOR GRADE II

##### I.1 UNITS OF CREDIT FOR GRADE II

1, 2, 3 as previously given.

4. The average of all test grades must be II.

5. Pupils securing this grade must show some initiative in attacking new work, i.e., they should, by consulting such aids as a dictionary, indexes, collateral texts, etc., by reviewing what they have already learned, and by paying careful attention to the assignment, be able to get the advanced work without *much help* from the teacher.

6. In every particular the quality of the work for grade II should be superior to the quality of the work for grade III.

7. Recitations should be well made without the aid of the teacher.

8. Daily preparation of assignments.

*The quality of the work for this grade should be 85 per cent perfect.*

## THE ESSENTIAL ELEMENTS FOR GRADE I

## I. 2 UNITS OF CREDIT FOR GRADE I

1, 2, 3, 5, 7 as previously given.

9. The average of test grades must be I.

10. Persistent daily preparation of assignments with but little urging and with but little help on the part of the teacher.

11. *Accuracy, neatness, legibility, correct spelling* must be the distinguishing characteristics of the work graded I.

12. The *quantity of work* done by a pupil receiving grade I should exceed that done by a pupil receiving grade II or III.

*The quality of the work for this grade should be 95 per cent perfect.*

We decided to make the pupils of the school acquainted with these essential elements of the various grades. Accordingly we had the elements for each grade printed, in type large enough to be read easily, on separate cards 19×30 inches in size. These cards are hung in every classroom in the building. Teachers and pupils discuss them frequently throughout the year and especially at the beginning of each six weeks' grade period.

It is evident that this differentiation in the essential elements which go to make up a certain grade, or grades, is primarily a qualitative and not a quantitative one. It will be noted, however, that element No. 12 states that the quantity of work done by a pupil receiving a grade of I should exceed that done by a pupil receiving a grade of II or III. The determining of the quantity of work to be done for a specific grade is a departmental problem. The teachers meet by departments at the beginning of each six weeks' period and agree upon the quantity of work which they will assign for the next six weeks for the various grades. These are written on a strip of cardboard furnished the teachers by the office, and appended to the card of printed essential elements. A copy of these quantitative requirements is filed in the office. I might state in passing that last year the range in the quantity of work expected of a pupil making a grade of III and a pupil making a grade of I was greater than this year. The teachers found that pupils were working to cover the quantity of work assigned and neglecting to check their quality. Also pupils who covered the quantitative

assignments expected the grades promised for covering these quantities regardless of the quality of the work. This year the teachers are insisting that the pupils who get high grades must earn them by showing, primarily, superior qualitative work.

The following are examples of the requirements for the six weeks' periods handed to me:

#### REQUIREMENTS FOR FIRST SIX WEEKS IN 1916-17

##### BIOLOGY

##### *Grade III on general class requirements*

###### Topics:

1. Biology and environment.
  2. Relations existing between green plants and animals.
  3. Study of plants, a flower, parts, pollination, relation of insects, etc.
  4. Living plants and animals compared.
  5. Seed growth.
  6. Need of foods. Plants and animals. Field and laboratory work.
- Text as guide.

Three class types required {

1. Study and recognition of trees and fruits by leaves, bark, etc.
2. Collection and mounting of 40 insects.
3. Collection and pressing of 40 fall flowering plants and weeds.
4. Assigned exercises on foregoing topics as laboratory work.
5. Report on one reference reading from assigned list.
6. Collection of clippings from current newspapers and periodicals.

##### *Grade II*

As above. With 5 more plants and insects, additional reference work, and laboratory work.

##### *Grade I*

As above. With 10 more plants, 10 more insects, additional reference work, and laboratory work.

#### REQUIREMENTS IN ENGLISH, OCTOBER 23 TO DECEMBER 1, 1916

##### ENGLISH 1-2

##### *Grade III*

1. Grade III in recitations.
2. Grade III in all class exercises.
3. Written themes, 3.
4. Oral themes, 3.
5. Classic, "Short Stories," 6 stories.
6. Spelling rules 1 and 2, and "a" and "b" words in *Manual*.<sup>1</sup>

<sup>1</sup> Our English teachers last year published a manual containing certain principles of grammar and rhetoric which all Freshmen and Sophomore pupils must master.



7. Figures of speech: simile, metaphor, personification.
8. Home reading, 3 marks.\*
9. Reading report, 1 (written).
10. Memorize "Call of Kansas."
11. Comma rules in *Manual*.

### Grade II

1. Grade II in recitations and class exercises.
2. Same as 3-11 in III.
3. Other work: 3 book marks or 3 written themes.

### Grade I

1. Grade I in recitations and class exercises.
2. Same as 3-11 in III.
3. Other work: 6 book marks or 6 themes (written), or 3 book marks and 3 written themes.

## ENGLISH 3-4

### Grade III

1. Grade III in recitations.
2. Grade III in class exercises.
3. Oral themes, 3.
4. Written themes, 3.
5. Comma rules in *Manual*.
6. Adjectives in *Manual*.
7. Verbs in *Manual*, first 24; sentence exercises.
8. Figures of speech.
9. Classic, "Ancient Mariner."
10. Home reading, 3 marks.
11. Reading report, 1 written.
12. Memorize "Ichabod."

### Grade II

1. Grade II in recitations and exercises.
2. 3-12 as in III.
3. Other work: home reading, 3 marks, or 3 written themes.

### Grade I

1. Grade I in recitations and exercises.
2. 3-12 as in III.
3. Other work: home reading, 6 marks or 6 written themes; or 3 book marks and 3 written themes.

\* Each book on the home reading list is evaluated as so many *marks*.

## ENGLISH 5-6

*Grade III*

Reports on following:

Irving: *Alhambra*, 5 stories; *Tales of a Traveler*, 5 stories; *Sketch Book*, 5 stories.

Bryant: 10 poems.

Cooper: one book (home reading).

Memorize "To a Waterfowl."

All class exercises.

Halleck: chapters ii and iii.

*Grade II*

As under III and 3 book marks or 10 reports.

*Grade I*

As under III and 6 book marks, or 20 reports, or 3 book marks and 10 reports.

A clear and definite differentiation in the work expected of the pupils for the various grades is made by our teacher of cabinet-work. The following list of projects with their evaluation in points, and the list of instructions are posted where all pupils may read them.

## LIST OF PROJECTS, CABINET DEPARTMENT

Project	Points	Project	Points
Phone stand.....	10	Dressing table.....	20-40
Blacking stand.....	10	Music cabinet.....	25
Umbrella stand.....	14	Settee.....	25
Chair.....	18	Morris chair.....	25
Piano bench A.....	18	Rocking chair.....	22
Piano bench B.....	18	Center table.....	15
Piano bench C.....	20	Plate rack.....	8
Medicine cabinet.....	20	Hall tree.....	18
Checkerboard.....	10	China cabinet.....	35
Glove box.....	8	Buffet.....	45
Pedestal.....	12	Sewing chair.....	18
Serving tray.....	8-10	Typewriter table.....	16
Cedar chest.....	20-30	Porch swing.....	20
Library table.....	20-35	Center table.....	20

All projects designed by pupils other than those on the accompanying list must be submitted to the teacher for approval and given the number of points allowed for construction.

Points are arranged according to tool processes, construction, and finish.

#### REQUIREMENTS IN CABINET-WORK

##### GRADE III

Thirty-four points must be made with an average of at least 70 per cent.

Any number of the foregoing points may be made by the pupil by doing general shopwork. Part of each pupil's time is to be spent doing general shopwork and credit is to be given according to the amount and quality of the work done.

##### *A pupil must:*

1. Form the habit of taking proper care of the tools and returning them to their proper places.
2. Learn that his job is not the only job in the shop and that he must have due regard for the work of others and be careful not to do anything that will injure or prevent another pupil from getting the best results from his labor.
3. Learn that the time that he takes to do a piece of work is often the greatest factor in the cost of the article, and that, no matter what his future line of work may be, his employer will rate his value to him by what he can do, how well he can do it, and how long it takes him to do it.
4. Learn that to work the problems out in the shop correctly requires him to do just as much thinking, just as much planning, as it does to do the work in any of his other classes, and that his shopwork calls for an application of the subject-matter that he is taking in other classes.
5. Learn that he is only a factor in the daily routine of life, and that often it is how well he does his part and how well he co-operates with others that determines the success or failure of the undertaking at hand.
6. Not expect to receive direct answers to questions he asks about work when such answers are found on the drawings, or when the answer may be obtained from some part of the project he has on hand, or by the application of a little systematic thinking and simple mathematics.
7. Make all his construction work substantial, and have all finished parts reasonably well cleaned of all blemishes, and at least one coat of stain, one coat of shellac, and one coat of wax applied.
8. Learn to sharpen all edge tools properly on the oil stone and grind at least one jack plane cutter, one smooth plane cutter, and one chisel.
9. Know the names of all the tools used in the shop, how to set them up and use them properly.
10. Be able to tell the difference between a cross-cut saw and a rip saw.
11. Know the common wood fastenings, common nails, casing nails, finish nails, flat-head, round-head, and oval-head screws.
12. Know what gimlets are and how to tell the size of them.
13. Know what auger bits are and how to tell the size.
14. Know what Forstner bits are and how to tell the size.

15. Be able to file and burnish a cabinet scraper properly.
16. Be able to square up framework by the use of the diagonals.
17. Know what glue is, how it is made, and how to prepare it for use in the shop.
18. Know the kinds of joints commonly used in cabinet construction and how to make them.
19. Be able to recognize the different kinds of wood commonly used in the shop.
20. Know the methods of sawing lumber and the reasons for quartersawing and the advantages to the cabinet-maker.
21. Be able to read a simple working drawing.
22. Be able to make out a bill of material for a small project.
23. Be able to figure the amount of lumber, board measure, that is required to make a given project.
24. Know the use of stains, fillers, shellac, varnish, sandpaper, pumice stone, rotten stone, rubbing oil, and steel wool.

## GRADE II

All requirements for a grade of III apply to a grade of II.

Forty points must be made with an average grade of at least 85 per cent.

All construction work must be substantial and well squared up.

All joints must be made properly and well fitted.

All blemishes, pits, plane marks, and saw marks must be removed so that after the stain, filler, and varnish are applied the project has a smooth, clean appearance.

All edge tools used by the pupil must be properly ground by him and sharpened properly on the oil stone.

The pupil must show some ability to go ahead with his work properly without the constant supervision of the teacher.

## GRADE I

All requirements for a grade of III and II apply to a grade of I.

Fifty points must be made with an average grade of at least 95 per cent.

All construction work must be rigged well, squared up, and done in a masterly way.

Broad surfaces must be well leveled.

All parts to be finished must be free of all marks that detract from the finish of the product.

All coats of finish necessary to give the right kind of a finish to the project, must be applied properly.

All layouts must be done accurately by the proper methods.

The pupils must be able to work accurately to the given dimensions.

The pupil must show a marked ability to solve the problems in the shop without the aid of the teacher.

For the last half of the school year 1915-16 I asked each teacher to hand to me her distribution of grades. The card used for this purpose follows:

## DISTRIBUTION OF GRADES

..... Teacher .....		..... Date .....		..... Subject .....	
		I	II	III	IV
Boys	{ Number enrolled....				
	{ Per cent. ....				
Girls	{ Number enrolled....				
	{ Per cent. ....				
Both	{ Number enrolled....				
	{ Per cent. ....				

From these cards I had graphs made for the various departments and we discussed them at faculty meetings. A large percentage of pupils were getting excess credit. The teachers attributed this to the fact that it had been customary for pupils to make high marks in this school and that pupils met the quantitative assignments.

The year closed with the distribution of grades shown in Table I:

TABLE I

	GRADES			
	I	II	III	IV (Failure)
1915-16....	21.0	27.7	38.7	12.6
1914-15....	33.6	36.8	24.2	5.4

This distribution is far from what is known as a normal distribution, but as compared with the distribution for 1914-15 it was much nearer normal.

The results of the first year's (1915-16) work under the system of quantitative and qualitative credit were studied at the opening

of school this last fall by the faculty as a whole and by departments. The teachers were well pleased with the principle of the system, but felt that the following changes in administering it should be made: (1) If pupils are to be given excess credit for superior work they ought to be penalized for inferior work, but not failed except for very inferior work. (2) The emphasis in urging pupils to do superior work ought to be placed on a higher quality of work and not on a greater quantity of work. (3) Teachers ought to study their distribution of grades and be sure that pupils are assigned the credit due them. (4) Pupils should be made to compete within their own class; that is, Seniors should not be allowed to enter Freshmen classes and get the same credit as Freshmen for the same work.

In conformity with recommendation (1) the credit system illustrated by Table II was adopted:

TABLE II

	GRADES					
	I	II	III	IV	V	VI
Credit value in units	1.2	1.1	1.0	0.8	0.5	0.0
Percentage . . . . .	95-100	85-94	70-84	65-69	60-64	Below 60

The wide range of 70 to 84 per cent inclusive for a grade of III was made because we felt that the pupils who fall within this range would most nearly represent the "average group," if there is such a group, and our work ought to be so planned that this group should be given the normal unit of credit. No credit was assigned to work graded lower than 60 per cent, because we use the plan of supervised study in our school. We have 60-minute periods in the clear. Approximately one-half of the time is given to study and one-half to recitation. The 0.5 of a unit credit should mean that a pupil has done more than merely sit in a recitation room and absorb what is going on. To reach 60 per cent even a bright pupil must put forth some effort. Also the slow pupil by working hard can get at least 60 per cent of the total work.

The pupil's grade card contains the following explanation:

SCALE OF GRADING

Eighteen units of credit are required for graduation, twelve of which must be in group I. (*Group I subjects are the purely academic subjects.*)

A grade of I gives 1.2 units credit. A grade of IV gives 0.8 unit credit.

A grade of II gives 1.1 units credit. A grade of V gives 0.5 unit credit.

A grade of III gives 1.0 unit credit. A grade of VI gives 0.0 unit credit.

Teachers make it clear to the pupils that this fractional credit is an administrative device for rewarding them for efforts expended and that probably outside of this school system it is valueless. As no fractional credit is given in a subject pursued less than a full year, no pupil has to repeat a subject in which he has less than a unit's credit.

A pupil is expected not to make a sequence of a subject in which he cannot earn a unit of credit. The only exception to this is English. In this we shall probably do as other schools have done, viz., enrol pupils according to their abilities.

When we commenced the study of the previous year's distribution of grades this last fall, there was some doubt on the part of a few as to the significance of this work. To get my point of view of this matter before them I issued a bulletin setting forth the leading scientific studies which have been made in the standardizing and distribution of grades.<sup>1</sup> This bulletin was the subject of discussion in the first faculty meetings.

After much discussion of this bulletin we agreed that each teacher should graph her grades before giving them out. The "Distribution of Grades" card shown on p. 319 was devised.

We have not adopted any particular curve of distribution. The distributions for the first three six weeks' periods for this year are shown in Table III.

Various meanings may be read into these figures. According to the testimony of the pupils and teachers of our school they mean that the standards of the classroom work have been raised this year and that pupils are more nearly classified according to their efforts and abilities.

<sup>1</sup> We are compelled to omit the admirable bulletin which Mr. Bailey mimeographed for his faculty.—THE EDITOR.

## DISTRIBUTION OF GRADES

(USE ONE CARD FOR EACH SUBJECT TAUGHT)

Teacher				Date				Subject											
	NUMBER GRADED	PASSED WITH GRADE OF III OR BETTER		PERMANENTLY WITHDRAWN		I		II		III		IV		V		VI			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Boys. . . . .																			
Girls. . . . .																			
Both. . . . .																			

N.B.—Determine the per cent to tenths of a per cent. For example: 9.8%.

Be sure your per cents total 100.0%. (Over)

Please graph the grades shown on the opposite side of this card according to the following key: Show grades of "Boys" by broken lines of "Boys" by dotted lines; "Girls" by dotted lines; "Both" by whole line

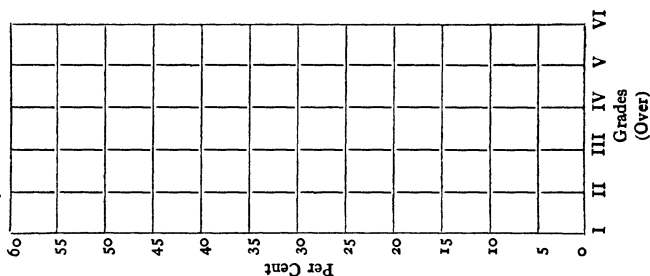


TABLE III

	GRADES					
	I	II	III	IV	V	VI
Credit values.....	1.2 Units	1.1 Units	1.0 Unit	0.8 Unit	0.5 Unit	0.0 Unit
First 6 weeks.....	5.4	21.8	49.0	13.8	6.7	3.3
Second 6 weeks....	9.0	21.0	49.6	13.3	4.6	2.5
Third 6 weeks.....	9.7	23.9	44.2	15.0	4.8	2.0
Year 1915-16.....	21.0	27.7	38.7	12.6—Failure		



In order that this graphing may not degenerate into a mere mechanical device of shifting grades to make a certain curve to please administrative officers, we are planning this spring to give to all departments tests devised by impartial parties.

Personally, I do not believe that any system of grading and especially a system which utilizes the principle of quantitative and qualitative credit can be successfully operated without giving very careful attention to the distribution of grades.

The matter of sequence referred to above has been met by the following regulation:

With a view to keeping pupils working in the classes where they belong intellectually and to provide for proper sequence—beginning this year—*all Junior and Senior pupils must select at least three-fifths of their subjects from the subjects listed for their respective years. Full credit will be given a pupil for a subject chosen from those listed for the class one year in arrear. Every subject taken two years in arrear of one's class shall be counted toward graduation at the rate of 0.2 unit less credit than the grade value earned:* that is, a fourth-year pupil taking a second-year subject or a third-year pupil taking a first-year subject shall receive only 1.0 unit of credit toward graduation for a grade of I, whereas a second-year pupil or a first-year pupil shall receive 1.2 units' credit for the same grade. *Every subject taken three years in arrear of one's class shall be counted toward graduation at one-half the grade value earned:* that is, a fourth-year pupil taking a first-year subject shall receive only 0.5 unit credit toward graduation for a grade of III, whereas a first-year pupil shall receive 1.0 unit credit for the same grade.

There is still one integral part of the scheme of administering this system which we recognize but which we have worked on only in so far as has been heretofore pointed out in this paper. I refer to the standardization of subject-matter. We believe that every subject in the curriculum should be standardized on some such plan as suggested by Dr. Judd in his address before the North Central Association of Colleges and Secondary Schools in 1916. That is, the subjects should be standardized with relation to each other, with relation to the methods employed in teaching them, and with relation to the subject-matter contained within them. This

is surely necessary before we can feel that varying credit in one school will mean or even approximate in meaning the same as varying credit in another school.

Our experience in administering the system of quantitative and qualitative credit for high-school work has brought us to the conclusion that the principle is sound, fair, and practicable under the following conditions:

1. Teachers should make a practice of putting clearly before their pupils the essential elements, stated quantitatively and qualitatively, which they are going to consider in making up the various scales of credit. This helps pupils to direct their energies more economically and more intelligently, and they will do their work more willingly and with greater interest, and take the grades assigned them with the feeling that they have received what they earned.

2. Teachers must be made to study the distribution of their own grades and the grades of the entire faculty. Possibly it would be well in high schools with large enrolments for the principal with his faculty to decide on some definite mode of distribution similar to those reported in use in the colleges and universities referred to in my bulletin.

3. Pupils must not be allowed to make excess credit in subject-matter which is not intended for pupils of their advanced intellectual attainment.

4. Curricula, subjects, and methods must be more fully standardized before the system of quantitative and qualitative credit can mean the same thing in different schools.